

0038

MEC

Mangum
Engineering
Consultants

388 East Boynton Road • Kaysville, Utah 84037 • (801) 544-3641

Pamela Grubaugh-Littig
Permit Supervisor
Utah Division of Oil Gas & Mining
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

file all Copy RAM, Jesse (RAM)
File ACT/015/025 #2
RECEIVED

MAY 14 1991

DIVISION OF
OIL GAS & MINING

14 May 1991

Pamela:

Ref: Letter of Credit, NOV N91-26-5-1, Bear Canyon Mine, Co-Op Mining Company, ACT/015/025, Emery County, Utah

Attached are four copies of pages 2-9, 3-39, 3-83, 3-86 and 3-89. Calculations and text have been updated using disturbed area data taken from the latest aerial survey. All areas were determined using a computer aided drafting (CAD) program and the digitized contour lines. On-site information and aerial photographs were referenced to delineate the boundaries. These areas will be shown on Plate 8-5, Top Soil Map, which will be submitted to the Division upon completion.

Bonding calculated in 1990 and found in Section 3.6.8.2 of the MRP, uses a total surface disturbance of 16 acres. The total bonding required is \$252,637 when escalated to 1995. This figure was determined using 16 acres disturbance and is summarized on page 3-86. The Letter of Credit posted in July 1990 was \$37,363 in excess of the required amount. Disturbed area acreage directly influences costs of items d, f, and g. Calculations are shown on page 3-89.

The total disturbed area outlined on the current maps is approx 23 acres as noted in the latest correspondence from the Division. Not all of the area within the outlined boundaries is "disturbed" with upset vegetation and recontouring, and will not be disturbed during reclamation activities. Disturbed areas are summarized below.

DISTURBED AREAS

<u>Definition</u>	<u>Acres</u>
Ball Park Topsoil Pile	1.25
Lower Haul Road	0.94
Sed Pond B & Scale House	2.97
Sed Pond A	0.53
Main Pad Area	9.38
Lower Portal Access Road	1.05
Portal Access Road	2.09
Upper Storage Pad	0.53
	=====
TOTAL	18.94

This shows an additional 2.94 acres to be incorporated into bounding calculations, above that used in 1990. In the 1990 calculations 8 acres were shown under item f as drill seeded and 7 acres were shown as hydroseeded under item g. Item h adds an additional 1 acre and the ball park is treated separately under item i. The aerial survey and acreage listed above indicate that the 7 acres shown under hydroseeding is high. In order to remain conservative this will be maintained. Although the Ball Park seeding is treated separately under item i, four acres will be added to the drill seeded area calculation.

Item d. At \$2,672.50/acre for backfilling and grading (\$42,760/16 acre = \$2,672.50) this would increase the total \$7,857 to approx \$50,620.

Item f. 12 acres x \$891.00/acre = \$10,692, increase = \$3,564

Added Total 1990

=====
\$11,421

With a 10 pct contingency and escalated to 1995 the new total should be \$266,400. This is still within the \$290,000 that is presently posted. Due to these facts the NOV was improperly issued and should be vacated. Co-Op was aware of the discrepancies involved with this issue and was working to incorporate the updates required.

Thank you,



Kimly C. Mangum, P.E.
Permitting & Compliance Consultant.

cc: Co-Op Mining Co.
C.O.P. Coal Development Co.
Joseph C. Helfrich (DOGM)

2.5.1 Waiver of Owners of Nearby Occupied Dwellings

Applicant does not propose to conduct or locate surface facilities within 300 feet of an occupied dwelling.

2.6 PERMIT TERM INFORMATION - ANTICIPATED FOR EACH PHASE

2.6.1 Starting Date

The mine started construction in 1981 and was in production by late fall of 1981. Mining in the 160 acre Lease addition area is proposed to begin in the spring of 1989 (Appendix 3-K).

2.6.2 Termination Dates

Termination dates anticipated for each phase of mining are nebulous at this time although a detailed estimate of production and reserves are included in the Geology Section and a projection of 22-years appears realistic (from 1990). The final termination date for the mining operation is expected to be 2012.

2.6.3 Numbers or Surface Acres Affected

The anticipated disturbance by the Bear Canyon Mine totals about 19 acres. Plate 2-1 shows potential property expansion and future facilities of the mine.

3.5.1.1 Projected Impacts of Mining on Current and Future Land Use

The acreage disturbed for each activity described above are as follows:

Ball Park Topsoil Pile	1.25
Lower Haul Road	0.94
Sed Pond B & Scale House	2.97
Sed Pond A	0.53
Main Pad Area	9.38
Lower Portal Access Road	1.05
Portal Access Road	2.09
Upper Storage Pad	<u>0.53</u>
TOTAL	18.94

The management objectives and the impacts from the Bear Canyon Mine pertaining to these objectives are described in detail in Chapter 4.

Impacts. The reduction in desirable plant species caused by the disturbance will temporarily reduce forage production and wildlife capacities. The short-term negative impact of vegetation removal would be outweighed by the positive impacts of revegetation and improved fire protection and prevention.

Wildlife in the area will adapt to the operation in a relative short time as witnessed by existing coal operations. Proposed construction may temporarily disrupt wildlife if human disturbance

3.6.8 Reclamation Bonding

BOND

CO-OP MINING COMPANY

BEAR CANYON MINE

ACT/015/025, EMERY COUNTY, UTAH

3.6.8.1 Detailed Timetable for Completion of Major Reclamation Processes

The following schedule of reclamation is proposed to be initiated within 90 days (weather permitting) of final abandonment of the mining operation:

	<u>Actual Time</u>
a. Seal Portal - 1 week	1 week
b. Remove Structures - 2.5 weeks	3.5 weeks
c. Soil Placement (backfilling and grading)	
1. Upper Pad - 1 weeks	
(including road)	4.5 weeks
2. Channel Restoration - 1.5 weeks	6 weeks
3. Lower Pad and Diversions - 2.5 weeks	
(including road)	8.5 weeks
d. Seed-bed Material and Handling - 1 week	9.5 weeks
e. Reseeding and Fertilizing - 1 week	10.5 weeks
f. Mulching - .5 week	11 weeks
g. Protective Fencing - 2 weeks (concurrently)	11 weeks

Summary of Reclamation Cost Estimate

a.	Seal Portals and Backfill	\$ 35,000.00
b.	Removal Structures	\$ 32,595.00
c.	Solid Waste Removal	\$ 2,451.44
d.	Soil Placement (backfilling and grading)	\$ 50,625.00
e.	Channel Restoration	\$ 16,892.24
f.	Drill Seeding	\$ 10,692.00
g.	Hydroseeding	\$ 11,669.00
h.	Riparian Area Seeding	\$ 2,210.00
i.	Baseball Park Seeding	\$ 3,495.00
j.	Retaining Wall Removal	\$ 442.66
k.	Borehole Plugging	\$ 343.40
l.	Maintenance and Monitoring of Subsidence, Vegetation and Erosion (10 yr bond liability period)	\$ 19,460.00
m.	Hydrology Monitoring (10 yr bond liability period)	\$ 23,072.00
n.	Supervision (10 weeks)	\$ 9,640.00
o.	Mobilization and Demobilization	\$ 2,500.00
		<u>\$221,079.74</u>
	10 pct Contingency	<u>\$ 22,107.97</u>
	(1990 dollars)	\$243,187.71

Escalated Values

1991 - \$247,662
1992 - \$252,219
1993 - \$256,860
1994 - \$261,586
1995 - \$266,400

Escalation Factor

1.84% (actual)
1.84% (est)
1.84% (est)
1.84% (est)
1.84% (est)

An irrevocable letter of credit was posted in July 1990 for \$290,000 by Co-Op (C. W. Mining Co.).

NOTE: Section 3.6.8.3 modification and adjustment

Reclamation Costs (cont)

Cross Conveyor

Labor - 3 men x 176.80/day x 1 day	\$ 530.40
Equipment (hauling) truck + operator x 6 hrs x 70.48/hr	422.88
loader + operator x 8 hrs x \$118.30 (950B - 2 1/2 cu. yd. bucket)	946.40
Crane - 2 hrs. @ \$101.70/hr.	<u>203.40</u>
Subtotal	\$ 2,103.08

c. Waste Removal

Labor - 2 men x \$176.80/day x 4 days	\$ 1,414.40
Hauling - truck + operator x 8 hrs x \$70.48/hr	563.84
Loader (+ operator) - 4 hrs x \$118.30	<u>473.20</u>
SUBTOTAL	\$ 2,451.44

d. Soil Placement and Seed-Bed Material & Handling

SUBTOTAL \$ 50,625.00

e. Channel Restoration (pulling culverts, reshaping channel, rip-rap and gabion structures)

Backhoe + operator x \$221.33 x 48 hrs	\$ 10,623.84
Labor - 4 men x \$176.80/day x 4 days	1,414.40
Cat x 1 day @ \$124.50/hr	996.00
Gabion Structures @ \$63.00/sy (53.3 sy)	3,358.00
Miscellaneous Rip-rap- \$500.00	<u>500.00</u>
SUBTOTAL	\$ 16,892.24

f. Drill Seeding (Section 9.5)

12 acres x \$ 891.00/acre	
SUBTOTAL	\$ 10,692.00

g. Hydroseeding (Section 9.5)

7 acres x \$1,667.00/acre	
SUBTOTAL	\$ 11,669.00

h. Riparian Area Planting (Section 9.5)

1 acre x \$2,210.00/acre	
SUBTOTAL	\$ 2,210.00